IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent appln. of : Keith C. Hong, et al.

Appln. No: 10/600,847

Filed: June 20, 2003

For: **ALGAE RESISTANT ROOFING GRANULES WITH CONTROLLED ALGAECIDE LEACHING RATES, ALGAE RESISTANT SHINGLES, AND PROCESS FOR PRODUCING SAME**

Group Art Unit: 1762

Examiner: Elena Tsoy

Docket No: 008-02

Mail Stop Amendment
Commissioner of Patents
P.O. Box 1450
Alexandria, VA 22313-1450

DECLARATION UNDER RULE 131 (37 C.F.R. § 1.131)

As an inventor of the subject matter claimed in the above-referenced patent application, I declare the following:

1. Figures 1 and 2 appended hereto are electron micrographs of algae-resistant granules produced before November 27, 2002 by the process of Example 5 of the disclosure of the above-referenced patent application.

2. Exhibit A hereto is a copy of page 56 of the laboratory notebook of Keith Hong, pages 58-59 and 70-75 of the laboratory notebook of Mr. Justin Scanlon, working under the direction of Keith Hong, and pages 7, 38 and 48 of the laboratory notebook of Mr. Adam Wolfgang, working under the direction of Keith Hong, and recorded before November 27, 2002 showing preparation of the algae-resistant roofing granules of Figures 1 and 2. Date information has been redacted.

3. Figure 3 appended hereto is an electron micrograph of algae-resistant granules produced before November 27, 2002 by the process of Example 4 of the disclosure of the above-referenced patent application.

4. Exhibit B hereto is a copy of nine pages from the laboratory notebook of Keith Hong showing preparation of the algae-resistant roofing granules of Figure 3. Date information has been redacted.

5. Figure 4 appended hereto is a photograph taken before November 27, 2002 of a test roof prior to the application of shingles thereto, showing the intended locations for installing various types of test and control shingles. The areas marked "NW T-1" and "NW T-2" are marked for the installation of asphalt shingles manufactured using algae-resistant granules made according to the process of present invention at applicants' assignee's Norwood manufacturing facility.

6. Figure 5 appended hereto is a photograph taken before November 27, 2002 of the test roof of Figure 4 subsequent to the installation of shingles thereon. Asphalt shingles manufactured using algae-resistant granules made according to the process of the present invention at applicants' assignee's Norwood manufacturing facility have been applied to the test roof at the locations indicated in Figure 4.

7. Exhibit C hereto is a copy of a manufacturing record evidencing the production of the algae-resistant granules used to manufacture the asphalt shingles installed in the area marked "NW T-1." (or T-1) Date information has been redacted.

8. Figure 6 appended hereto is a photograph taken before November 27, 2002 of an exterior exposure test station subsequent to the installation of shingles thereon. Asphalt shingles manufactured using algae-resistant granules made according to the process of the present invention at applicants' assignee's Norwood manufacturing facility have been applied to the exterior exposure station.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 or the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Inventor's signature: _____

Keith C. Hong

Date: Jan. 13, 2006

Inventor's signature: _____

Husnu M. Kalkanoglu

Date: 1/16/2006

Inventor's signature: _____

Ming L. Shiao

Date: 1/13/2006

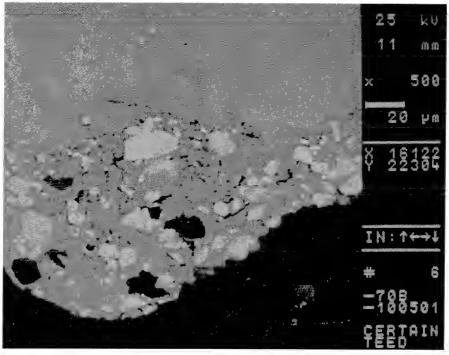

Figure 1

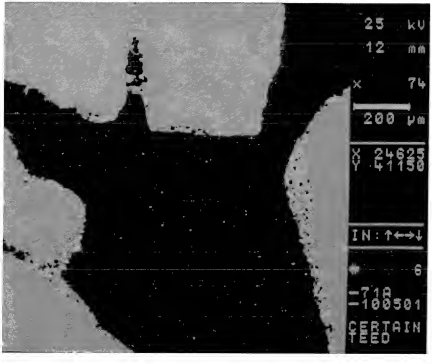

Figure 2

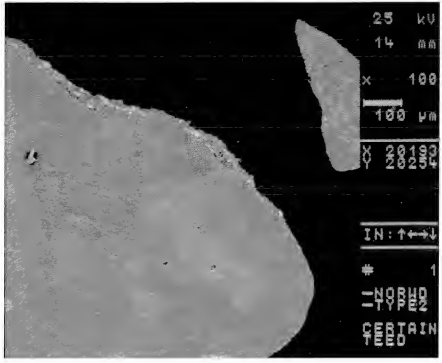

Figure 3

Figure 4

Figure 5

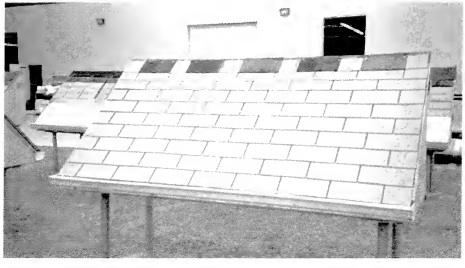

Figure 6

Exhibit A

LABORATORY NOTEBOOK

Notebook No.: KH-1

Assigned to: Keith Hang

Date: _____

Use Naige Cat. No.
6301-1000
to reorder.
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Rev. 1993

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56
PROJECT Pore Inducers in Notebook No.
Continued From Page

Algae-Resistant Granules

In order to improve & increase diffusion of Cu & Zn ions from the inner layers of the algae-resistant granules, one needs to provide open channels within the copper & zinc oxide layer. One idea is to add pore inducers

My dear Vitrified Veterans,

Who has an answer for our former Organic friend? See below.

My first reaction would be bubbled alumina, although it would result in closed porosity. If closed porosity is not a problem, perhaps glass spheres would offer a more controlled size distribution.

Mike

-----Original Message-----
From: Hong, Keith C.
Sent:
To: Mahoney, Michael
Subject: Pore Inducers

Hi Mike,

Long time no see. How is everything ? I understand you guys are busy with the World Meetings lately, hope it all goes well.

Have a question on pore inducers. I am interested in some sort of compounds that would introduce porosity into my coating in a controlled manner. The coating consists of sodium silicate, clay and pigments, and is generally fired at 900 °F. The thickness is 10-30 microns. What types of pore inducers would you recommend ?

Thanks a lot

Keith Hong
Phone (610) 341-6204

Read and Understood By

Keith Hong
Signed Date Signed Date

Algae-Resistant Granules

In order to improve + increase diffusion of Cu + Zn ions from the inner layers of the algae-resistant granules, one needs to provide open channels within the copper + zinc oxide layer. One idea is to add pore inducers into the layer. The pore inducers are usually organic materials which would burn off or evaporate during the firing of the granules at 425°F nominal temperature.

Will discuss this idea with our friends of the Abrasives Branch since they use walnut shell and other natural materials as pore inducers in vitrified grinding wheels.

Continued on Page

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LABORATORY NOTEBOOK

Notebook No.: ONE

Assigned to: Justin W Scanlon

Date:

Use Nalge Cat. No.
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PROJECT Copper Coated Granules Notebook No. ONE
Continued From Page 57

Copper Granules Method: 3M, #5,356,664
1st coating JWS1-58A

Raw Materials

	WT (g)
#11 Wrentham Slate	1000.00
Clay	30.00
Cu_2O (Purple Cop. HP III, 5359,	35.0285
ZnO (Zinox 350, 0229,	1.7544
Sodium Silicate (..., Oxychem 42)	40.02
Water	19.5

Fired at 900°F

2nd Coating

Raw Materials

	WT (g)
#11 Wrentham Slate	800.00
Clay	24.02
Cu_2O (Purple Cop. HP III, 5359,	28.0252
ZnO (Zinox 350, 0229,	1.4007
Sodium Silicate (..., Oxy chem 42)	30.00 ~~1.2016~~ ~~1.2002~~
CrO_3 ( )	1.2016
Water	15.21

Fired at 900°F

3rd Coating - NWS1 Black

Raw Materials

	WT (g)
clay	7.52 ~~10.03~~
#11 Wrentham Slate	750.00
~~ZnO (Zinox 350, 0229,~~	
Sodium Silicate (... Oxychem 42)	16.88
Carbon Black ( )	2.1575 ~~2.8754~~
Water	7.59

Fired at 750°F

Continued on Page

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Method 3M # 5,356,644 Col 15: 14

1st Coating JWS 1-58-A

Raw Materials

#11 Wrentham Slate
Clay (
Cu_2O (Purple Cup, HP111, 5359,
ZnO (Zinc 350, 0229,
Sodium Silicate (
Water

WT (g)
100.00
30.00 35.0069
35.0062
1.7548
40.05
19.58

Fired at 750°F

2nd Coating

Raw Materials

#11 Wrentham Slate
Clay (
Cu_2O (Purple Cup, HP111, 5359,
ZnO (Zinc 350, 0229,
Sodium Silicate (
Water

WT (g)
750.04
82.52
26.2580
1.5125
18.14
14.21

Fired at 750°F

3rd Coating JWS 57 Black

Raw Materials

Clay (
#11 Wrentham Slate
Sodium Silicate (
Carbon Black (
Water

WT (g)
7.52 ~~75~~
750.01
16.10
2.1572
7.02

Continued on Page

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PROJECT New Kiln Firing   Notebook No. ONE

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AR Granules   jws1-70-A   *new formula

~~trying~~ trying new amount of copper

- Soda Silicate, catalytes

Round 1

Raw Materials

		WT(g)
	#11 Wrentham Slate [redacted]	1000.00
↓282	Clay [redacted]	22.50
	Cu_2O (Purple Type HP3, Lot# 5454, Chemet [redacted])	23.0210
ϕ	ZnO (Kadox-920, Lot# 011085, [redacted], ZCA)	1.7543
↓282	Sodium Silicate (Oxychem 42, [redacted])	30.01
↓282	Water	14.980

Fired at 650°F

Round 2 ~~AR~~ 71 TONER AR Granules

Raw Materials

	WT(g)
#11 Wrentham Slate	850.00
Air Floated Clay [redacted]	17.00
Cr_2O_3 Green GN [redacted]	0.1484
12 Mixed ([redacted])	0.2981
Zinc Ferrite Tan 3488X ([redacted])	2.7604
Cobalt Carbon Black [redacted]	0.8987
Sodium Silicate (Oxychem 42 [redacted]	26.60
Water	6.02

AR Granules (w/ sprinkles) jws1-70-B

Raw Materials

	WT(g)
#11 Wrentham Slate [redacted]	500.00
Air Floated Clay	15.00
Cu_2O (Purple Type HP3, Lot# 5454, Chemet [redacted])	17.6705
ZnO (Kadox-930, Lot# 011085, 97%, ZCA)	0.8752
Sodium Silicate (Oxychem 42, [redacted])	20.02
Water	9.81
* Sprinkles (Cake Mate, Nonpareils Decors)	6.04

Fired at 650°F

Continued on Page 71

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Justin D Scanlon
Signed   Date   Signed   Date

AR Granules (w/ sprinkles) JWS1-71-A

Raw Material

	WT(g)
#11 Wrentham Slate	500.01
Air Floated Clay	15.00
Cu_2O (Purple type HP3 Lot# 5454 Chemet)	17.6773
ZnO (Kadox-930, Lot# 011085, ZCA)	0.8755
Sodium Silicate (Oxychem 42,)	20.00
Water	9.52
* Sprinkles (Cake Mate, Nonpareils Decors)	15.01

Fired at 650°F

AR Granules (w/ large sprinkles) JWS1-71-B

Raw Materials

	WT(g)
#11 Wrentham Slate	500.00
Air Floated Clay ( )	15.00
Cu_2O (Purple type HP3, Lot# 5454, Chemet)	17.6771
ZnO (Kadox-930, Lot# 011085, ZCA)	0.8756
Sodium Silicate (Oxychem 42,)	20.01
Water	9.50
* Sprinkles (Cake Mate, Rainbow Decors)	15.01

Fired at 650°F

AR Granules (w/ cane sugar) JWS1-71-C

Raw Materials

	WT(g)
#11 Wrentham Slate	500.00
Air Floated Clay ( )	15.00
Cu_2O (Purple type HP3, Lot# 5454, Chemet)	17.6777
ZnO (Kadox-930, Lot# 011085, ZCA)	0.8754
Sodium Silicate (Oxychem 42,)	20.00
Water	9.61
* Superfine Cane Sugar (Domino Sugar)	15.01

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Justin W Scarle
Signed   Date   Signed   Date

PROJECT New Kiln Firing   Notebook No. one
Continued From Page 71

~~AR Granules (w/ Regal Black) jws1-72-A~~

~~Raw Materials~~

~~Raw Materials~~	~~wt(g)~~
~~#11 Wrentham Slate ( )~~	~~500.00~~
~~Air floated Clay ( )~~	~~15.01~~
~~Cu_2O (Purple type HP3, Lot # 5454, Chemet)~~	~~17.6759~~
~~ZnO (Kadox-930, Lot # 011085, ZCA)~~	~~0.8756~~
~~Sodium Silicate (A) (Oxychem 42)~~	~~20.01~~
~~Water~~	~~9.62~~
~~* Regal Black 400 (Cabot,)~~	~~15.01~~

Fired at 650°F

too much Regal/400 Could not use

AR Granules (w/ crushed walnuts #3) jws1-72-BA

Raw Materials

Raw Materials	wt(g)
#11 Wrentham Slate (	500.00
Air floated Clay ( )	15.01
Cu_2O (Purple type HP3, Lot # 5454, Chemet	17.6750
ZnO (Kadox-930, Lot # 011085, , ZCA)	0.8743
Sodium Silicate (Oxychem 42,)	19.99
Water	9.61
* Crushed Walnut (#3 shell)	~~16.01~~ 15.02

Fired at 650°F

AR Granules (w crushed walnuts #5) jws1-72B

Raw Materials

Raw Materials	wt(g)
#11 Wrentham Slate (	500.01
Air floated Clay (same as above)	15.00
Cu_2O (" " ")	17.6784
ZnO (" " ")	0.8730
Sodium Silicate (" " "	20.01
Water	9.59
Crushed walnuts (#5 shell)	15.00 g

Fired at 650 °F

Continued on Page 73

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Justin W Scali
Signed   Date   Signed   Date

AR Granules, ~~1st Coating~~ 1st Coating JWS 1-73-A Using 3M formula for 1st Coating

Raw Materials		WT(s)
Extruded Granules (CH 30 Clay 25%, Stone D.V. 75%)		330.00
Sodium Silicate (Brighton #4)		40.00
Air Floated Clay	30.00	9.90
Water		19.80
CuO (Purple Type HP, Lot# 5454 Chemet)		35.0625
ZnO (Kadox-911 Lot# 811005)	2CA	1.7514

Fired at 650°F

2nd Coating

Raw Material 0.662 of 1000 g

		WT(s)
Extruded Granules (from 1st Coating)		330.00
Air Floated Clay (" ")	19.80	4.37
CuO (Same as above)		28.1078
ZnO (" ")		1.1550
Sodium Silicate (" ")		24.75
Water		12.82

Fired at 650°F

3rd Coating NW-51 BLACK

Raw Material		WT(g)
Extruded Granules (from first Coating)		360.01
Air Floated Clay (Same as above)		7.21
Sodium Silicate (" ")		12.24
Laporte Carbon Black		1.0357
Water		2.62

Total Cmpd: $\frac{58}{330} = 17.6\% \Rightarrow$ 255 #/ton granules

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PROJECT New Kiln Firing

Notebook No. ONE

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AR Granules (LH 040-2) for NW-ST BLACK JWS1-74-A

Raw Materials

	WT (g)
LH 040-2 AR Granules	398.60
Air floated Clay ( )	7.97
Capital Coke Black ( )	15.25
Sodium Silicate (Oxychem 42, 2001-06-284)	12.48
Water	2.88

Fired at 650°F

AR Granules (w/ walnut shells, #4) JWS1-74-B

Raw Materials

	WT (g)
#11 Wrentham Slate ( )	500.00
Air floated Clay (same as above)	15.01
Sodium Silicate (" ")	19.99
Cu_2O (Purple type HP3, Lot #5454 chemet,)	7.6748
ZnO (Kadox-930, Lot #011085,)	0.8743
Water	9.21
Walnut shells (#4 shell)	(15.00)

Fired at 650°F

AR Granules ~~JWS1-74-A~~ JWS1-74-C

* new formula - one coating copper

Raw Materials

		Wt(g)
1000	#11 Wrentham Slate	1000.00
↓258	Clay	22.50
	Cu_2O (Purple Type HP3 Lot # 5454 chemet)	23.0102
	ZnO (Kadox 930 Lot # 011085)	1.7515
↓258	Sodium Silicate (Oxychem 42 2CA) 2#A)	30.02
↓258	Water	14.90

Fired at 650°F

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Justin W Scanlan
Signed Date Signed Date

All Ceramics, Raw Formula (Continued from ~~JWSL-74-B~~ JWSL-74-C
2nd Coating - NW BLACK

Raw Materials	Grams
AR granules (JWSL-74-C)	900.01
Attapulgite Clay	18.01
Laponite Carbon Black	25.872
Sodium Silicate Composition 42	28.713
Water	6.38

Fired 650°F

Extended granules:

(1) LH040-2 ⇒ JWSL-74A

3500 granules, 11.55 g CuO x 2, NW5 black

(2) JWSL-73A

3300 granules, 35 g CuO + 23 g CuO, NW5 black

Continued on Page

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Justin U Scarlett
Signed Date Signed Date

LABORATORY NOTEBOOK

Notebook No.: One

Assigned to: Adam Wolfgang

Date: ___ / ___ / ___

email: alw29@drexel.edu

Cell phone: 570-265-3249

Use Nalge Cat. No.
6301-1000
to reorder.

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Rev. 1993

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Copper Coated Ceramics alw 1-7A (same as jws 1-68-A)

1st Coating

Raw Materials	Wt (g)
#11 Wrentham Slate	1000.00
Clay	80.01
Cu_2O (Purple Type HP3, lot #5454, Chemet)	35.0270
ZnO (Kadox-920, Lot# 0110855, ZCA)	1.7512
Sodium Silicate (OxyChem 42)	40.01
Water	19.61

Fired At 650°F

- granules were clumpy after first coating

2nd Coating

Raw Materials	Wt (g)
#11 Wrentham Slate	625.00
Clay	18.76
Cu_2O (Purple Type HP3, Lot #5454, ZCA)	21.8921
ZnO (Kadox-920, Lot # 0110855, ZCA)	1.0938
Sodium Silicate (Oxychem 42)	25.01
Water	12.26

3rd Coating

Raw Materials	Wt (g)
#11 Wrentham slate	600.00
Clay	12.02
Laporte Carbon Black	1.7271
Sodium Silicate (Oxychem 42)	18.75
Water	4.27

Continued on Page

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Copper Coated Granules

alw 1.38

Round 1

* 30g Sugar / 35g Cu_2O

Raw Materials	wt (g)
#11 Wrentham Slate	1000.00
Air Floated Clay	30.00
Cu_2O (Purple Type MP3, Lot # 51454 Chemat)	35.0010
ZnO (Kadox 720, Lot # 0110855 ZCA)	1.7520
Sodium Silicate (Oxychem 42)	40.00
Water	15.00
Domino Sugar (Superfine Cane Sugar)	30.00

Fired at 650°F

Round 2

Raw Materials	wt (g)
Copper Coated Granules (Batch #38)	800.00
Air Floated Clay	16.00
Laporte Carbon Black	2.2991
Sodium Silicate (Oxychem 42)	24.00
Water	13.00

~~$64~~ 1000

Fired at 650°F

* after Round 1 dry Cu_2O coated granules were mixed with 10ml water and tumbled for 10 minutes to break up the clumpy granules before applying the pigment coating.

* amount of water used in pigment coating was increased to help maximize coverage.

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PROJECT New Kiln Firing

Notebook No. One

Continued From Page

Copper Coated Granules

alw1-48

Round 1

8 Kg Walnut Shell / 35g Cu_2O

Raw Materials	wt (g)
#11 Wrentham Slate	1000.00
Air Floated Clay	29.98
Cu_2O (Purple Type HPS, Lot#5454, Chemet)	35.00
ZnO (Kadox 920 Lot # 011085, , ZCA)	1.7506
Sodium Silicate (Oxychem 42)	40.00
Water	~~25.00~~ 13.00
Walnut Shell #6	15.00

Fired at 650°F

Round 2

Raw Materials	wt (g)
Copper Coated Granules (alw1-48)	875.00
Clay	17.50
Laporte Carbon Black	2.57
Sodium Silicate	27.20
Water	11.00

Fired at 650°F

Continued on Page

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Signed [signature] Date

Signed Date

Exhibit B

Norwood AR Grande trial

16 ton/hr production rate

- Variables only at Norwood plant
  $244.96 per hour

- Total cost is $304 / hr, variables + fixed

⇒ Variables $15.31 per ton
30.00 base rock cost
16.00 silicate, clay, etc. pigments
$61.31 per ton

For 30 tons, ⇒

Cost ⇒ $1,860 one coat

* Second coat : $15.31
12.00 lower raw matl cost

(no copper) Variable cost / ~~Grand Cost~~ Grand Total $88.62 / ton

* Start at 9:30 pm, really start ~ 10 Am

4000 lb batch (4000 lbs base rock)

(w/ pigments 4.55% CuO)	Base rock	(1000) 4000		
	Clay	(20) 80	[56]	
(4.6%)	CuO	(50) 200		normal NW products
(0.16%)	ZnO	(1.75) 7		is <30 lb pigments
pigments not included	Silicate	(37.5) ~~120~~ 150	[60]	total solids 4347 lbs
	H_2O	(15) 60	[0]	
	Walnut shell	(15) 60		(Variation 2)

→ 1.38% ; ⇒ 15 g / kg base rock

Do 8 batches in a ~~row~~ row for CuO/ZnO, then 8 batches in a row for ~~2~~ CuO/ZnO/walnut

Mixing time : 7.5 minutes

⇒ 8 batch ~ 1 hr

~~CuO~~ CuO comes ~~[illegible]~~ in 1100 lb/bag

Walnut shell in 2000 supersack

ZnO in 50 lb/bag

It's 40 minutes max time from the time the mixture [illegible] is dropped to the belt to finished

---

The flame color is gree greenish rather than yellowish (standard) due to the emission ~~[illegible]~~ color of CuO

Wilkclay is ~5¢/lb (clay) ~$100/ton

Silicate (40% solids) ~ 8¢/lb

(one transition from previous run)

After 8 batches of Cu-Cr/ZnO only, start the transition batch at ~ 11 AM.

This batch has 60 lbs walnut shell plus 50 lbs carbon black pigment to make the transition.

The next 8 batches has only Cu-Cr/ZnO/walnut shell, of course no carbon black.

Color granite 16 ton/hr ⇒ 400 tons/day ⇒ 17 ton/hr

24 hr/day, 5.5 day/wk

Produce 12 supersacks of Cu2O/ZnO only

" 15 " " Cu2O/ZnO/Walnut

Base rock color		(Cu2O/ZnO only) no nuts	w/ nuts
L	34.67	+ 6.06	- 4.88
a	1.44	+ 9.02	1.41
b	5.03	+ 5.08	- 0.61
ΔE		11.99	5.11

"Alkalinity" per Tom's method: 0.50 2.35

Color granules usage in shingles

25 tons per 6000 squares

MW AR granules - day 2

Coloring process:

- Start w/ 2 bags of non-wet AR granules, using MW 71 formula. Measure color
- Next, go to the granules w/ water; run all the bags. Measure color. MW 71 formula starts we've one more chance of changing pigments to match 3M L27000 color
- Finish off w/ the remaining non-wet granules.

* 2 bags is ~ one batch of 4000 lbs
Each bag holds ~~1000~~ 1900 lbs - 2000 lbs
* start ~ 8 AM the coloring process

Load the bags to the conveyor belts, treating them as "wet" base rock

NW71 standard

Clay	80	(56)
St. Maple Tan 15	8.80	
120 Red	1.60	
Green 0552	0.70	
807 Dark Blue	2.90	
	69.5	

w/o nuts, 1st 2 Dan:

$\Delta E = 3.6$.

So the new formulation for w/o nuts:

Tan	7.00
Green Olive	1.50
Red	0.00
Blue	2.90 (no change)

The one w/ with nuts has $\Delta E = 3.90$, but visually, it's pretty good.

⇒ With nuts has, NW71 formula

Labeling:

Type I: No nuts

Type II: With nuts

Total 88 granules,

(1) Type 1, no nuts

4 packs, ~ 4 tons

(2) Type 2, with nuts

3 pack, ~ 3 tons

no mods, still hot

$\Delta L = -1.56$

$\Delta a = 1.57$

$\Delta b = 0.45$

$\Delta E = 2.26$

---

with mods mods, we still hot

$\Delta L = -3.78$, -3.17

$\Delta a = 0.96$, 1.63

$\Delta b = -0.24$, 0.73

$\Delta E = 3.90$ $\Delta E = 3.64$

NW 71 taken $L = 34.67$

$a = 1.44$

$b = 5.03$

Exhibit C

cr 1	cr 2
+4	+4
+2	+1
+4	+3

S: 50½
B: 16
J: 9½
TRIAL RUN 198

	ot	it
M. Neves	44/6	3⅙

7369.0 / 7319.5 = 49.5 Wren

7432.7 / 7369.0 = 63.7 Base

	ot	it
Doherty	4	4

7523.3 / 7432.7 = 90.6 Wren

	ot	IT
Doherty	8	

7716.7 / 7523.3 = 193.4 Wren

		ot	it
(1.4)	A Barbosa	1¾	6¼

(1.6) 14 Batches FB-51 = 22.5 T

A Barbosa / Da Silva — ot 8, it ø

64 Batches FB-51 = 132.5

DaSilva — ot 8, IT

64 Batches FB-51 = 138.5

281.68

Finish Tanks
#1 - 3
2 - 3½
3 - 7
11 Base - 20½
9 Base - 23

Rec'd 1½" Wren Rock @ thermal (30)	702.75 T
Del'd fines (10)	311.12 T
Del'd Base to FB6	186.3 T
Del'd Waste to FB6	3.0 T
Del'd FB 51 to FB6 (142 B)	293.5 T

S : 25½
B : 16
J : 10

CM 1	CM 2
+4	+4
+4	+2
+6	+2

TRIAL RUN

OT IT
Nevla 8
241.1 / 216.7 = 244 Wren

216.6 / 216.1 = 170.5 BASE

Nevl / OT IT
[illegible] 8 ∅
216.4 / 221.6 = 194.8 Wren

OT IT
[illegible]rty 8
244.9 / 206.4 = 1385 Wren

241.3 / 244.9 = 464 BASE

OT IT
C. Balboa 3¾ 4¼
(1.4) TRIAL (30.3) (2.3) 30 Batches FB-53 = 52.8 T

C. Balboa / OT IT
DaSilva 8 ∅
(2.1) 50 Batches FB-53 = 114.5
13 Batches FB-55 = 16.0

OT IT
DaSilva 8
64 Batches FB-55 = 133.0

Final Tanks
1 – 3
2 – 3½
3 – 12
11 BASE – 5
9 BASE – 12

30 610

[illegible] 1½" Wren Rock @ tunnel (20) 709.0 T
[illegible] fines to : (11) 341.3 T
[illegible] Base to FBG 155.8 T
[illegible] Waste to FBG (20.8 TRIAL) 26.6 T
[illegible] FB-53 to FBG 80 B (10.1 mins) 167.3 T
[illegible] FB-55 to FBG 77 B (9.7 mins) 149.0 T

(10) (12) 9??

- The banana belt slopped again @ 3[20] pm. Got to change the DRIVE side [illegible] bearing - it's bad! Tony & Kevin changing it now.

@ 5[45] into 33 = 77' (31 = 45')

- (Reminder for Joe K). Will need Del Tim's P.M.'s Sunday in order to update (color code) the weekly P.M. (Sometime Tuesday - will need them)

7P-7A

- Sent over 68.6 Tons of Base to #1 & 2 silos.

- Making FB-93 going into silo #16-30' at 5[30] #15-15' #22-12'

7-3

ROOFING IS RUNNING APPROX 7200 BUNDLES OF LANDMARK 25 WEATHERWOOD AFTER THE CANNON SLATE. THEY WILL RUN IT TIL THEY ARE OUT OF CT-50 BLACK; THEN THEY WILL RUN COBBLESTONE UNTIL 6AM. (CHANGE OVER TO [illegible])

[illegible]: WIND (FULL) WASH 6X4 (10 HRS) 6-10 (FULL) 6-1 (FULL)

[illegible] (FULL #3) BASE (FULL) [illegible] (FULL)

- [illegible] SHOULD [illegible]

NORTON COMPANY, LEAVE [illegible] THE GARAGE, [illegible]

Al - Lotte - John, here a 1^{40} for the locker-room heath
Will call you 4 to 5 for Wed. A.M.

- I called shipping to set the Brodie guy in here for the fork lift that needs a [illegible] - Wednesday

- Silicate is ordered for Wed.

#4 belt won't run - might be the AC TECH

DEAD, NO SPARES

→ Upon S/U @ FAK 4 pm - top of wet [illegible] shifted 2"

for Del Trio: (1) change C-12A reducer oil
DWIGHT (2) replace the deduster feed pipe
(3) start putting the other 2 [illegible] trunnions together

[illegible] 35 [illegible] ; (17 - 56') (26 - 33') } saving @ [illegible]

S/U FBW @ 4^{30} AM -

Al -

Al.

7P-7A

- I had Delfino put a canvas over the little hopper over incoming belt.

- Delfino couldn't use new shafts for Trunnions because they were wrong size, so he used old shafts.

- Making FB-12 going into silo #6-40' at 5:30 #5-40'.

7-3

- ~~SILICATE~~ IN

FBK: ~~G-10 (FILL 1PM)~~ B-1 (10 Hours) CT-50 (FILL 7AM)
DBL WASH IN MORNING → PREPARE FOR TRIAL RUN

FBW: WHEN (FILL #3, #1, #3) B-55, WHEN

- SEPTIC TANKS ARE GOING TO BE PUMPED OUT TOMORROW. WE EXPOSED THE COVERS TODAY.

Nelson — When I sent base over (this afternoon): when Barbosa went to lock out 9 + 11 base tanks — #9 base tanks valve rolled over opening - then closing. And when it opened some base was released. So give ~~it~~ ~~the~~ the belt at least 4 minutes to clear after the lead man locks out the base valves.

- Sent over 87.2 of base

Nelson — Please have Delfino change the shafts on 2 of the truing he did last night. He put them in backwards.